

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Tranquilla (US 6,074,533). The claims are reasonably and broadly construed in light of the accompanying specification to be disclosed by Tranquilla as comprising:

a method for thermal treating granular solids in a reactor with a swirl chamber feeding microwave radiation from a microwave source into the reactor through a wave guide, wherein the wave guide constitutes a gas supply tube and additionally feeding a gas stream through the gas supply tube into the swirl chamber at column 3 lines 36-55. Tranquilla also discloses the claimed gas stream introduced through the gas supply tube being utilized for an additional fluidization of a fluidized bed formed in the swirl chamber at column 3 lines 56-65, wherein by introducing the gas stream into the gas supply tube solid deposits in the gas supply tube are avoided at column 4 lines 3-8, the reactor has a temperature between 150°C and 1200°C at column 4 line 49, a reactor with swirl chamber, a microwave source disposed outside the reactor and a wave guide

Art Unit: 3749

for feeding microwave radiation into the reactor wherein the wave guide constitutes a gas supply tube through which a gas stream can additionally be fed into the swirl chamber at column 4 line 49, wherein the gas supply tube has a rectangular or round cross-section which is adjustable whose dimensions are adjusted in particular to the used frequency of the microwave radiation at column 5 lines 45-56, and wherein the gas supply tube has a length of 0.1 m to 10 m at column 4 line 57.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tranquilla in view of Smith (US 3,528,179). Tranquilla discloses the claimed invention, as rejected above, except for the claimed flash or suspension reactors. It would have been an obvious matter of design choice to recite a flash or suspension reactor since the teachings of Tranquilla would perform the invention as claimed

Art Unit: 3749

regardless of the type of reactor. Tranquilla discloses the claimed invention, as rejected above, except for the claimed frequency range. Smith, another method of microwave treating, discloses the frequency range claimed at column 5 line 13. It would have been obvious to one skilled in the art to combine the teachings of Tranquilla with the specific claimed frequency range, disclosed in Smith, for the purpose of optimizing the length of the microwave structure based on the frequency chosen.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Other prior art references cited in this application disclose one or more of the claimed features.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Gravini whose telephone number is 571 272 4875. The examiner can normally be reached on normal weekday business hours (east coast time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven B. McAllister can be reached on 571 272 6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3749

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen Gravini/
Primary Examiner, Art Unit 3749